Software Metrics & Project Management
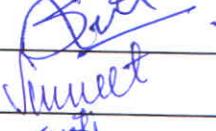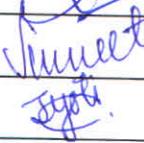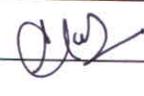
Semester III	Subject Code: MS31901	Lectures: 60

Objectives:

The syllabus aims in equipping students with,
- skills that are required to ensure successful medium and large scale software projects
- examining Requirements Elicitation, Project Management, Verification and Validation and Management of Large Software Engineering Projects
- applications of project management techniques for process modeling, planning, estimation, process metrics and risk management; perform software verification and validation using inspections, design and execution of system test cases.
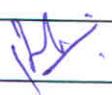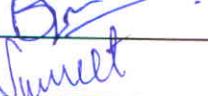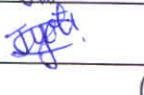
Unit 1: Introduction	10
Chapter 1 : Introduction to Project Management • What is a Project? • What is Project management? • Project phases and project life cycle • Organizational structure • Qualities of Project Manager	4
Chapter 2 : Project Management Components • Project Integration Management-Project plan development and execution • Change controls • Configuration management	6

Sr. No.	BOS member		Sign
1	Dr. Razak Sayyed	Subject Expert	
2	Prof. Abhijit Sathe	Subject Expert	
3	Prof. Sonali Deshmukh	Subject Expert	
4	Mr. Sumeet Kakroo	Industry Expert	
5	Ms. Jyoti Sharma	Alumni	
6	Prof. Ashwini Kulkarni	Chairman and Internal Faculty	
7	Prof. Smita Borkar	Internal Faculty	

Unit 2: Project Management Components	18
Chapter 3 : Scope Management • Strategic planning • Scope planning, definition • Verification and control	4
Chapter 4 : Time management • Activity planning • Schedule development and control	2
Chapter 5 : Cost Management • Cost estimation and Control	2
Chapter 6 : Quality Management • Quality planning and assurance	2
Chapter 7 : Human Resource Management • Organizational planning • Staff acquisition	2
Chapter 8 : Communication Management • Information distribution • Reporting	2
Chapter 9 : Risk Management • Risk identification • Quantification and control	2
Chapter 10 : Procurement Management • Solicitation • Contract administration	2

Unit 3: Software Metrics	12
Chapter 11 : Software Metrics • The scope of software metrics • Software metrics data collection • Analyzing software data • Measuring size, structure, external attributes	6
Chapter 12 : Software Reliability • Measurement and prediction • Resource measurement • Productivity, teams and tools	6

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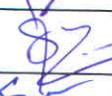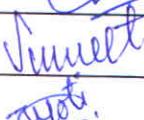
Unit 4: Measurement program and Quality Standards	10
Chapter 13 : Planning a measurement program • What is metrics plan? • Developing goals, questions and metrics • Where and When: Mapping measures to activities • How: Measurement tools • Who: Measurers , analyst, tools revision plans **Chapter 14 : Quality Standards** • CMM • PSP/TSP	6 4

*Contact Hours : 10 Hours.

References books

1. Cenage Learning, Kathy Schwalbe , 6th Edition ,*Information Technology Project Management*, ISBN-13 :9781111221751
2. International Thomson Computer Press ,Norman E. Fenton and Shari Lawrence Pfleeger, *Software Metrics: A rigorous and Practical Approach*
3. McGraw-Hill ,Roger S. Pressman *Software Engineering: A Practioner's Approach* ISBN: 9780071267823
4. Prentice hall, Robert B. Grady , *Practical Software Metrics for Project Management and Process Improvement* ISBN : 9780137203840

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